(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 685 554 A1**

(12) **EUROPEAN PATENT APPLICATION**

(21) Application number: **95108006.8**

(51) Int. Cl.[6]: **C11C 5/00**

(22) Date of filing: **24.05.95**

(30) Priority: **29.05.94 IL 10981494**
31.08.94 US 296924

(43) Date of publication of application:
06.12.95 Bulletin 95/49

(84) Designated Contracting States:
FR GB

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(54) Solid oil-based candles.

(57) A composition for use in illumination, including at least one oil; and at a gelatinizing composition consisting exclusively of at least one gelatinizing agent having 15 or more carbons, selected from the group consisting of fatty acids and fatty acid derivatives, in a concentration between about 0.3 and 50 mass percent, sufficient to gelatinize the at least one oil. In particular, the oil is olive oil and the gelatinizing agent is a fatty alcohol selected from the group consisting of C-40 straight chain fatty alcohol ($CH_3(CH_2CH_2)_{19}CH_2OH$), C-50 straight chain fatty alcohol ($CH_3(CH_2CH_2)_{24}CH_2OH$) and 12-Hydroxy stearic acid.

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FIELD AND BACKGROUND OF THE INVENTION

The present invention relates to oils and, more particularly, to olive oils and similar oils used for burning to provide illumination.

Olive oil and various other oils as well as various waxes, and the like, have for centuries been used as method to provide illumination. With the advent of electricity, the use of these materials for illumination has decreased dramatically in the modern world so that the major uses of these materials is currently largely ceremonial, for example as part of religious ceremonies, or sentimental, for example, to add a certain atmosphere to a restaurant, and the like. For ease of presentation, all uses of candles involving the production of light, whether strictly for illumination purposes or for various ceremonial purposes, will be referred to hereinafter in the specification and claims as "illumination".

The use of oils, such as olive oil, enjoys certain advantages over candles, such as wax candles, in that oils typically burn very cleanly with a clear and strong flame. For this and other reasons oils, such as rose hip oil, wheat germ oil, apricot kernel oil, avocado oil, sunflower oil, evening primrose oil, jojoba oil, corn germ oil, mineral oil and especially olive oil are, in many applications, the preferred medium.

Unfortunately, oils, being liquid at room temperature, suffer from a major disadvantage relative to candles in the realm of convenience. Thus, while wax candles can be easily transported and installed for lighting, the oils, such as olive oil, by virtue of their being a liquid, require great care in transportation and, more importantly, requires a great deal of attention on the part of the user to pour the desired amounts of oil into the receptacle and to insert the wick in such a way that it will be effective. The use of oils thus requires considerable attention and is very time-consuming, at best, and may produce quite a mess if due care is not taken.

On the other hand, in many cases, particularly for religious purposes, there is a limit to the quantity of material which may be added to the oil for hardening or gelatinizing without detracting from the purity of the oil, typically 1.6%.

There are a number of patents in the literature for the manufacture of candles from various components, most commonly waxes and petroleum derivatives with gelatinizing additives.

There is disclosed in US Patent 3,844,706 to Tsaras a candle having a shaped thermoplastic blend including at least one glyceride, which may be corn, rapeseed or olive oil, or a mixture thereof, ethyl cellulose as a gelatinizing agent, and 3-20 weight percent of additives. The additives can include compounds of the formula R_1-X, wherein R_1 is a hydrocarbon radical having from about 5 to about 37 carbon atoms and X can be hydroxyl or carboxyl.

The patent to Tsaras suffers from the disadvantage that it requires a gelatinizing agent as well as additives to improve the characteristics, i.e., strengthen or soften the candle body, lessen its tendency to exude oil, improve the dissolution of ethyl cellulose in the glyceride, as so on. Thus, Tsaras does not contemplate the use of his additives to replace the gelatinizing agent, ethyl cellulose. Furthermore, the gelatinizing agent, ethyl cellulose, must be present in an amount from about 6-55%.

There is shown in US Patent 3,645,705 to Miller et al. a transparent combustible material suitable for candle bodies. The material includes a straight chain aliphatic amide with light mineral oil and a short chain primary alcohol. Alternatively, natural oils, such as olive oil, can be utilized. In this patent, the polyamide, which is a long chain linear amide resin polymer derived from the reaction of dimerized linoleic acid with di- or polyamine, such as Versamide 940, serves as the gelatinizing agent. 7-30% of an alcohol may be added to overcome the greasy or oilu surface characteristics of the gel and to improve the combusion characteristics of the composition. In addition, up to about 5% of a fatty acid, such as 12-hydroxy stearic acid, can be incorporated in the material to cheapen it, improve its stiffness and improve its burning characteristics.

Again, in the patent to Miller, there is no suggestion that the fatty acid alone can be used as the gelatinizing agent in place of polyamide and alcohol.

There is thus a widely recognized need for, and it would be highly advantageous to have a way of obtaining the benefits of oils, such as olive oil, without having to suffer from its disadvantages. That is, it would be desirable to be able to use oils to produce a clean and clear flame without having to spend an inordinate amount of time in preparations and to incorporate a relatively small amount of gelatinizing agent to solidify the candle while permitting its use for religious purposes.

SUMMARY OF THE INVENTION

According to the present invention there is provided a composition for use in illumination, including: (a) at least one oil; and (b) a gelatinizing composition consisting exclusively of at least one gelatinizing agent having 15 or more carbons, selected from the group consisting of fatty acids and fatty acid derivatives, in a

concentration between about 0.3 and 30 mass percent, sufficient to gelatinize said at least one oil.

According to further features in preferred embodiments of the invention described below, the gelatinizing agent is a fatty alcohol which is selected from the group consisting of 1-Pentadecanol, Cetyl Alcohol, 1-Heptadecanol, Stearyl Alcohol, Nonadecanol, Arachidyl Alcohol, Heneicosanol, Behenyl Alcohol, Lignoceryl Alcohol, 1-Pentacosanol, 1-Hexacosanol, 1-Heptacosanol, 1-Octacosanol, 1-Triacontanol, C-40 straight chain fatty alcohol ($CH_3(CH_2CH_2)_{19}CH_2OH$) and C-50 straight chain fatty alcohol ($CH_3(CH_2CH_2)_{24}CH_2OH$).

According to an alternative embodiment of the invention, the gelatinizing agent is 12-Hydroxy Stearic acid.

The present invention successfully addresses the shortcomings of the presently known configurations by providing olive oil in a solid, or gelatinized, state which is easy to transport and easy to deploy for lighting.

The olive oil, which is normally liquid at room temperature, is gelatinized through the addition at elevated temperatures of suitable quantities of one or more fatty alcohols, saturated or unsaturated fatty acids or fatty acid derivatives and similar other compounds which serve to dramatically raise the oil's viscosity causing it to behave essentially as a solid. In particular, according to one embodiment, no more than 1.6% gelatinizing agent need be incorporated in the oil.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention is of an article of manufacture which includes an oil, such as olive oil, and a gelatinizing composition. The resulting article is a high viscosity oil which is candle-like in its properties and which can, as a result, be handled in a way which is similar to the handling of a conventional wax candle.

The preferred oil is olive oil and, for ease of presentation and convenience, the description which follows is largely concerned with olive oil. Olive oil is a fixed oil obtained from ripe olives, the fruit of the cultivated olive tree Olea europaea L., Oleaceae. Olive oil is produced almost exclusively in the countries adjoining the Mediterranean Sea, with Spain being the largest producer. To produce olive oil, whole olives are crushed in edge runner mills and the oil is expressed in open hydraulic presses.

The composition of olive oil varies slightly but generally is made up primarily of mixed glycerides of oleic acid (83.5%), of palmitic acid (9.4%), of linoleic acid (4.0%), of stearic acid (2.0%) and of arachidic acid (0.9%). Minor constituents of olive oil are squalene (up to 0.7%) and phytosterol and tocopherols (about 0.2%).

Olive oil is used primarily as food in salads, with sardines, for cooking and baking. It is also used in the manufacture of soaps, textile lubricants, sulfonated oils, cosmetics and pharmaceutical preparations. The present invention involves the use of olive oil for illumination, which is today a relatively minor use of olive oil.

It has been surprisingly found that the addition to olive oil of relatively small amounts, in many cases less than 1.6 mass%, of certain fatty alcohols, saturated or unsaturated fatty acids or fatty acid derivatives and similar other compounds dramatically increases the viscosity of the olive oil. The increase in vesicate is so dramatic that the resultant composition acts in many ways as a solid candle-like structure which can be easily transported and readily deployed for lighting.

A composition according to the present invention is formed by mixing olive oil with a gelatinizing composition consisting exclusively of one or more saturated fatty alcohol, saturated or unsaturated fatty acid or fatty acid derivative and similar other compounds having 15 or more carbons in a concentration between about 0.3 and 30 mass percent sufficient to gelatinize the olive oil. Preferably, the gelatinizing composition is present in a concentration between about 0.3 and 15 mass%, and most preferably, between about 0.3 and 16. mass%.

The mixing of the olive oil and the one or more fatty alcohols and the like preferably takes place at an elevated temperature, such as about 60-120 °C, depending on the melting point of the gelatinizing additive, and is accompanied by suitable mixing. When the mixture is allowed to cool to room temperature the viscosity of the mixture increases.

It was found that the gelatinization of the olive oil depends on the length of the fatty alcohol or alcohols, saturated or unsaturated fatty acids or fatty acid derivatives and similar other compounds added and the amount of fatty alcohol, saturated or unsaturated fatty acids or fatty acid derivatives and similar other compounds added to a given amount of olive oil, i.e, the concentration of the gelatinizing compound.

Various fatty alcohols are suitable according to the present invention. These include, but are not limited to 1-Pentadecanol, Cetyl Alcohol, 1-Heptadecanol, Stearyl Alcohol, Nonadecanol, Arachidyl Alcohol, Heneicosanol, Behenyl Alcohol, Lignoceryl Alcohol, 1-Pentacosanol, 1-Hexacosanol, 1-Heptacosanol, 1-Octacosanol, 1-Triacontanol, C-40 straight chain fatty alcohol ($CH_3(CH_2CH_2)_{19}CH_2OH$) and C-50 straight

chain fatty alcohol ($CH_3(CH_2CH_2)_{24}CH_2OH$). Preferably, one or more of the following fatty alcohols is or are used: Nonadecanol, Arachidyl Alcohol, Heneicosanol, Behenyl Alcohol, Lignoceryl Alcohol, 1-Pentacosanol, 1-Hexacosanol, 1-Heptacosanol, 1-Octacosanol, 1-Triacontanol, C-40 straight chain fatty alcohol (CH_3-$(CH_2CH_2)_{19}CH_2OH$) and C-50 straight chain fatty alcohol ($CH_3(CH_2CH_2)_{24}CH_2OH$). More preferably, one or more of the following fatty alcohols are used: Behenyl Alcohol, Lignoceryl Alcohol, 1-Pentacosanol, 1-Hexacosanol, 1-Heptacosanol, 1-Octacosanol, 1-Triacontanol, C-40 straight chain fatty alcohol (CH_3-$(CH_2CH_2)_{19}CH_2OH$) and C-50 straight chain fatty alcohol ($CH_3(CH_2CH_2)_{24}CH_2OH$). Most preferably, one or more of the following fatty alcohols are used: 1-Heptacosanol, 1-Octacosanol, 1-Triacontanol, C-40 straight chain fatty alcohol ($CH_3(CH_2CH_2)_{19}CH_2OH$) and C-50 straight chain fatty alcohol ($CH_3(CH_2CH_2)_{24}CH_2OH$).

Various unsaturated fatty acids and derivatives are suitable according to the present invention. These include, but are not limited to Stearic acid, Hexacosanoic acid, Stearic acid ethyl ester, Stearic acid methyl ester, Stearic acid propyl ester, Stearic anhydride, Alpha hydroxy stearic acid, C16-24 Triglycerides, 12-Hydroxy stearic acid, 1-Monopalmitoyl-rac-glyceride, 1,3 Dipalmitin, 1,2 Dipalmitoyl-3-myristoyl-rac-glycerol and hexdecanedioic acid.

Various saturated fatty acids and derivatives are suitable according to the present invention. These include, but are not limited to Linoleyl alcohol.

Various other compounds are suitable according to the present invention. These include, but are not limited to Ceteareth-30 $R(OCH_2CH_2)nOH$ $n = 30$, R-Mixture of cetyl and stearyl alcohols, Cetearyl alcohol & Ceteareth 33 wherein cetearyl alcohol is a mixture of cetyl and stearyl alcohols and Ceteareth 33 is R-$(OCH_2CH_2)nOH$ where $n = 30$ and R is a mixture of cetyl and stearyl alcohols, a mixture of Palmitic acid, Stearic acid and 12-Hydroxy stearic acid, and hydrogenated castor oil.

EXAMPLE 1

Olive oil was heated to about 60-120 °C, depending on the melting point of the gelatinizing additive. A pre-determined amount of one of ten fatty alcohols was added to the olive oil while mixing. Mixing was continued at the elevated temperature until a homogeneous solution was obtained. The mixing was then stopped and the mixture was allowed to cool to room temperature. The mixture was checked to see whether it gelatinized (Tables 1, 1A and 1B). In those cases where the composition gelatinized, The amount of time that it took to get viscous was measured (Tables 2 and 2A). Finally, the viscosity of the various compositions was measured (Table 3).

As can be seen from Table 1, of the five fatty alcohols tested, Cetyl Alcohol was found to be effective at a mass percentage of more than about 4 percent, Stearyl Alcohol was found to be effective at a mass percentage of more than about 2 percent and 1-Hexacosanol was found to be effective at a mass percentage of more than about 0.05 percent.

All the gelatinizing agents tested in the various examples were found to be effective up to at least 50 mass%.

TABLE 1

Gelatinization					
CONCENTRATION (mass%) / **FATTY ALCOHOL**	**2**	**4**	**6**	**8**	**10**
Lauryl Alcohol	No	No	No	No	No
Myristyl Alcohol	No	No	No	No	No
Cetyl Alcohol	No	No	Yes	Yes	Yes
Stearyl Alcohol	Yes	Yes	Yes	Yes	Yes

TABLE 1A

Gelatinization					
CONCENTRATION (mass%)	**0.05**	**0.1**	**0.15**	**0.2**	**0.25**
FATTY ALCOHOL					
1-Hexacosanol	No	Yes	Yes	Yes	Yes

TABLE 1B

Gelatinization		
NAME OF CHEMICAL		**MINIMAL CONCENTRATION FOR GELATINIZATION**
Arachidyl alcohol (C20)		>1%
Behenyl alcohol (C22)		>1%
1-Triacontanol (C30)		>0.3%
C-40 straight chain Fatty Alcohol $CH_3(CH_2CH_2)_{19}CH_2OH$		>0.3%
C-50 straight chain Fatty Alcohol $CH_3(CH_2CH_2)_{24}CH_2OH$		>0.3%
C-40 + C-50 in 1:1 mixture		>0.3%

TABLE 2

Time (min) of gelatinization of the oil					
CONCENTRATION (mass%)	**2**	**4**	**6**	**8**	**10**
FATTY ALCOHOL					
Lauryl Alcohol	-	-	-	-	-
Myristyl Alcohol	-	-	-	-	-
Cetyl Alcohol	-	-	220	90	60
Stearyl Alcohol	-	80	50	35	25

TABLE 2A

Time (min) of gelatinization of the oil					
CONCENTRATION (mass%)	**0.05**	**0.1**	**0.15**	**0.2**	**0.25**
FATTY ALCOHOL					
1-Hexacosanol	-	Immediately	Immediately	Immediately	Immediately

TABLE 3

VISCOSITY (cps)					
CONCENTRATION (mass%) / FATTY ALCOHOL	2	4	6	8	10
Lauryl Alcohol	~100	~100	~100	~100	~100
Myristyl Alcohol	~100	~100	~100	~100	~100
Cetyl Alcohol	~100	~100	6000	8000	11000
Stearyl Alcohol	~100	5000	10000	14000	49000

EXAMPLE 2

In a second set of experiments fatty alcohols were used to gelatinize different kinds of oils of both natural and synthetic origin. The procedure was as described above with the results tabulated in Table 4.

TABLE 4

NAME OF OIL	CONCENTRATION (mass%) FATTY ALCOHOL	2	4	6	8	10
Rose Hip Oil	Myristyl Alcohol	No	No	No	No	No
	Cetyl Alcohol	No	No	Yes	Yes	Yes
	Stearyl Alcohol	No	Yes	Yes	Yes	Yes
Wheat Germ Oil	Myristyl Alcohol	No	No	No	No	No
	Cetyl Alcohol	No	No	No	Yes	Yes
	Stearyl Alcohol	No	Yes	Yes	Yes	Yes
Apricot Kernel Oil	Myristyl Alcohol	No	No	No	No	No
	Cetyl Alcohol	No	No	Yes	Yes	Yes
	Stearyl Alcohol	No	Yes	Yes	Yes	Yes
Avocado Oil	Myristyl Alcohol	No	No	No	No	No

	Cetyl Alcohol	No	No	Yes	Yes	Yes
	Stearyl Alcohol	No	Yes	Yes	Yes	Yes
Sunflower Oil	Myristyl Alcohol	No	No	No	No	No
	Cetyl Alcohol	No	No	Yes	Yes	Yes
	Stearyl Alcohol	No	Yes	Yes	Yes	Yes
Evening Primrose Oil	Myristyl Alcohol	No	No	No	No	No
	Cetyl Alcohol	No	No	Yes	Yes	Yes
	Stearyl Alcohol	No	Yes	Yes	Yes	Yes
Jojoba Oil	Myristyl Alcohol	No	No	No	No	No
	Cetyl Alcohol	No	No	Yes	Yes	Yes
	Stearyl Alcohol	No	Yes	Yes	Yes	Yes
Corn Germ Oil	Myristyl Alcohol	No	No	No	No	No
	Cetyl Alcohol	No	No	Yes	Yes	Yes
	Stearyl Alcohol	No	Yes	Yes	Yes	Yes
Mineral Oil	Myristyl Alcohol	No	No	No	No	No
	Cetyl Alcohol	No	No	Yes	Yes	Yes
	Stearyl Alcohol	No	Yes	Yes	Yes	Yes

EXAMPLE 3

Shown in Table 5 are a number of gelatinizing agents including saturated or unsaturated fatty acids or fatty acid derivatives and similar other compounds along with their approximate experimentally determined minimum effective gelatinizing concentration in olive oil.

TABLE 5

NAME OF CHEMICAL	FUNCTIONAL GROUP	MINIMAL CONCENTRATION FOR GELATINIZATION
Saturated fatty acids and derivatives		
Stearic acid	Free acid	>10%
Hexacosanoic acid	Free acid	>5%
Stearic acid ethyl ester	Ethyl ester	>10%
Stearic acid methyl ester	Methyl ester	>10%
Stearic acid propyl ester	Propyl ester	>10%

Stearic anhydride	Anhydride	>10%
Alpha hydroxy atearic acid	Hydroxy fatty acid	>3%
C 16-24 Triglycerides	Glyceride	>1.5%
1-Monopalmitoyl-rac-glyceride	Monoglyceride	>3%
1,3 Dipalmitin	Diglyceride	>5%
1,2 Dipalmitoyl-3-myristoyl-rac-glycerol	Triglyceride	>3%
Hexadecanediodic Acid	Diacid	>1%
12 Hydroxy Stearic Acid	Hydroxy Fatty Acid	>0.5%
Unsaturated fatty acids and derivatives		
Linoleyl alcohol	Alcohol	>10%
Others		
Ceteareth-30 $R(OCH_2CH_2)nOH$ n=30, R-Mixture of cetyl and stearyl alcohols		>10%

Cetearyl alcohol & Ceteareth 33 cetearyl alcohol=Mixture of cetyl and stearyl alcohols Ceteareth 33 = R(OCH2CH2)nOH n=30, R=Mixture of cetyl and stearyl alcohols		>10%
Palmitic acid + Stearic acid + 12 Hydroxy stearic acid	1% 11% 88%	>0.7%
Hydrogenated Castor Oil		>3%

While the invention has been described with respect to a limited number of embodiments, it will be appreciated that many variations, modifications and other applications of the invention may be made.

Claims

1. A composition for use in illumination, comprising:
   (a) at least one oil; and
   (b) a gelatinizing composition consisting exclusively of at least one gelatinizing agent having 15 or more carbons, selected from the group consisting of fatty acids and fatty acid derivatives, in a sufficiently high concentration to gelatinize said at least one oil.

2. A composition as in claim 1, wherein said at least one gelatinizing agent is a fatty alcohol.

3. A composition as in claim 1, wherein said at least one oil includes an oil selected from the group consisting of, rose hip oil, wheat germ oil, apricot kernel oil, avocado oil, sunflower oil, evening primrose oil, jojoba oil, corn germ oil, mineral oil and olive oil.

4. A composition as in claim 1, wherein said at least one oil includes an oil selected from the group consisting of, wheat germ oil, sunflower oil, corn germ oil, mineral oil and olive oil.

5. A composition as in claim 1, wherein said at least one oil includes olive oil.

6. A composition as in claim 2, wherein said fatty alcohol is selected from the group consisting of 1-Pentadecanol, Cetyl Alcohol, 1-Heptadecanol, Stearyl Alcohol, Nonadecanol, Arachidyl Alcohol, Heneicosanol, Behenyl Alcohol, Lignoceryl Alcohol, 1-Pentacosanol, 1-Hexacosanol, 1-Heptacosanol, 1-Octacosanol, 1-Triacontanol, C-40 straight chain fatty alcohol ($CH_3(CH_2CH_2)_{19}CH_2OH$) and C-50 straight chain fatty alcohol ($CH_3(CH_2CH_2)_{24}CH_2OH$).

7. A composition as in claim 2, wherein said fatty alcohol is selected from the group consisting of Nonadecanol, Arachidyl Alcohol, Heneicosanol, Behenyl Alcohol, Lignoceryl Alcohol, 1-Pentacosanol, 1-Hexacosanol, 1-Heptacosanol, 1-Octacosanol, 1-Triacontanol, C-40 straight chain fatty alcohol (CH_3-$(CH_2CH_2)_{19}CH_2OH$) and C-50 straight chain fatty alcohol ($CH_3(CH_2CH_2)_{24}CH_2OH$).

8. A composition as in claim 2, wherein said fatty alcohol is selected from the group consisting of Behenyl Alcohol, Lignoceryl Alcohol, 1-Pentacosanol, 1-Hexacosanol, 1-Heptacosanol, 1-Octacosanol, 1-Triacontanol, C-40 straight chain fatty alcohol ($CH_3(CH_2CH_2)_{19}CH_2OH$) and C-50 straight chain fatty alcohol ($CH_3(CH_2CH_2)_{24}CH_2OH$).

9. A composition as in claim 2, wherein said fatty alcohol is selected from the group consisting of 1-Heptacosanol, 1-Octacosanol, 1-Triacontanol, C-40 straight chain fatty alcohol ($CH_3(CH_2CH_2)_{19}CH_2OH$) and C-50 straight chain fatty alcohol ($CH_3(CH_2CH_2)_{24}CH_2OH$).

10. A composition as in claim 1, wherein said fatty acid or fatty acid derivative is C-40 straight chain fatty alcohol ($CH_3(CH_2CH_2)_{19}CH_2OH$).

11. A composition as in claim 1, wherein said fatty acid or fatty acid derivative is C-50 straight chain fatty alcohol ($CH_3(CH_2CH_2)_{24}CH_2OH$).

12. The composition as in claim 1, wherein:
    (a) said at least one oil is olive oil; and
    (b) said at least one gelatinizing agent is at least one fatty acid derivative selected from the group consisting of C-40 straight chain fatty alcohol ($CH_3(CH_2CH_2)_{19}CH_2OH$), C-50 straight chain fatty alcohol ($CH_3(CH_2CH_2)_{24}CH_2OH$) and 12-Hydroxy stearic acid.

13. A composition as in claim 1, wherein said at least one gelatinising agent is a saturated fatty acid or fatty acid derivative.

14. A composition as in claim 13, wherein said saturated fatty acid or fatty acid derivative is selected from the group consisting of Stearic acid, Hexacosanoic acid, Stearic acid ethyl ester, Stearic acid methyl ester, Stearic acid propyl ester, Stearic anhydride, Alpha hydroxy atearic acid, C16-24 Triglycerides, 12-Hydroxy stearic acid, 1-Monopalmitoyl-rac-glyceride, 1,3 Dipalmitin, 1,2 Dipalmitoyl-3-myristoyl-rac-glycerol and hexdecanedioic acid.

15. A composition as in claim 1, wherein said fatty acid or fatty acid derivative is 12-Hydroxy stearic acid.

16. A composition as in claim 1, wherein said at least one gelatinizing agent is selected from the groups consisting of Ceteareth-30 $R(OCH_2CH_2)nOH$, where $n=30$, and R is a mixture of cetyl and stearyl alcohols; Cetearyl alcohol & Ceteareth 33, where cetearyl alcohol is a mixture of cetyl and stearyl alcohols and Ceteareth 33 is $R(OCH_2CH_2)nOH$, where $n=30$ and R is a mixture of cetyl and stearyl alcohols; and a combination of Palmitic acid, Stearic acid and 12-Hydroxy stearic acid.

17. The composition as in claim 1, wherein said gelatinizing composition is present in a concentration between about 0.3 and 15 mass percent.

18. The composition as in claim 1, wherein said gelatinizing composition is present in a concentration between about 0.3 and 1.6 mass percent.

19. A candle, comprising:
    (a) at least one oil; and

(b) a gelatinizing composition consisting exclusively of at least one gelatinizing agent having 15 or more carbons, selected from the group consisting of fatty acids and fatty acid derivatives, in a sufficiently high concentration to gelatinize said at least one oil.

20. The candle of claim 19 for religious use, wherein:
(a) said oil includes olive oil; and
(b) said gelatinizing composition is present in a concentration of between about 0.3 and 1.6 mass percent.

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 95 10 8006

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
Y	DATABASE WPI Week 9407 Derwent Publications Ltd., London, GB; AN 94-054130 & JP-A-06 009 987 (NIPPON SEIRO KK) , 18 January 1994 * abstract *	1,19	C11C5/00
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A	DATABASE WPI Week 8420 Derwent Publications Ltd., London, GB; AN 84-124827 & JP-A-59 062 513 (SHISEIDO KK) , 10 April 1984 * abstract *	1-6,13,14	C11C

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	4 September 1995	Dekeirel, M

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
O : non-written disclosure
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T : theory or principle underlying the invention
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EPO FORM 1503 03.82 (P04C01)

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EUROPEAN SEARCH REPORT

Application Number
EP 95 10 8006

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	DATABASE WPI Week 8405 Derwent Publications Ltd., London, GB; AN 84-026892 & JP-A-58 217 597 (KAMEYAMA ROSOKU KK) , 17 December 1983 * abstract * -----	1,19	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)

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THE HAGUE	4 September 1995	Dekeirel, M

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